

REMARKS

Claims 1-99 are rejected. Claims 1, 4-8, 11-14, 18-19, 23-26, 30-31, 34, 41-42, 46, 53-54, 57, 64-65, 69, 76-77, 80, 87-88, 92, and 99 are amended. No new matter is present. Claims 1-99 remain in the case for reconsideration. Reconsideration and allowance of the claims is respectfully requested in light of the following remarks.

Claims Rejections - 35 USC 103

Claims 1-16, 19-28, 31-39, 42-51, 54-62, 65-74, 77-85 and 88-97 are rejected under 35 USC 103(a) as being unpatentable over Kallio (US 2002/0147008) in view of Wilhoite et al. (US 2003/0224795).

Kallio teaches using "GSM handoff procedures" for providing mobility between a GSM network and a different local network (e.g., wireless LAN). Wilhoite discloses a call routing system for use with a wireless telephone system. Kallio in view of Wilhoite does not teach the claimed invention as claimed in the amended claims.

Regarding claim 1, Kallio alone or in combination with Wilhoite does not teach exchanging a modality handoff signal over the original leg. Kallio's architecture involves WLAN network devices that "emulate" a GSM cell. See Kallio, page 1, [0012]; page 3, [0020]; page 5, [0044]. Kallio's solution requires the WLAN network devices (WMC, AGW) to communicate with the cellular network elements (MSC and BSC) during the handoff procedures. For example, in Kallio, in an active handover state from a GSM network to a wireless LAN, a handover request is sent towards the MSC 120 and then delivered to the WMC 210, via AGW 310. If capable of handling the request, the WMC 210 sends an acknowledgement message. The MSC 120 then handles the handover procedure and sends a handover command to the MS 150 via the GSM BSS 110. The MS 150 then contacts the WLAN radio and sends handover access via the wireless LAN 200 and AGW 310, to the MSC 120. See Kallio, page 5, [0049]; page 6, [0050]. Similarly, in an active handover state from a WLAN to a GSM network, a handover request is sent via the WMC 210 and AGW 310 to the MSC 120, which is then sent to the GSM BSS 110. If capable of handling the request, the GSM BSS 110 sends an acknowledgement message. The MSC 120 then handles the handover procedure and sends a handover command to the MS 150 via the AGW 310 and WMC 210. See Kallio, page 6, [0053]-[0058]. Thus, communication with the MSC or BSC is required during the handoff procedures in Kallio.

The architecture of the claimed invention, however, does not require any cellular-specific communication between WLAN network and cellular network elements. The wireless device of the invention performs handoff by communicating with a remote device and making a handoff call to that device. For example, when the wireless-phone has an active call in the WLAN network, the cellular network elements such as MSC and BSC may not be involved. Rather, when a handoff is required, a modality handoff signal is exchanged over the original leg between the wireless phone and a remote device (See Specification on page 10, lines 25-31). The phone then gets an access-address and makes a "hidden" handoff call using the cellular call. Thus, as far as the cellular network (which comprises elements such as the BSC and MSC) is concerned, this is a new call, and no cellular (or GSM) handoff procedure which involves either the BSC or the MSC occurs.

Claim 2, dependent on amended claim 1, also is allowable because it depends from an allowable claim and recites further distinguishing limitations. Withdrawal of the rejection is respectfully requested.

Regarding claim 3, Applicant respectfully traverses Examiner's assertion that Kallio discloses the device of claim 3, in which the processor is further adapted to: tear down the original leg while transferring data of the voice conversation between the voice channel and the alternate leg. In Kallio, after the handover complete message is sent, the MSC 120 releases the reserved resources from the GSM BSS 110. The MS 150 is handed over and starts to use the WLAN radio. See Kallio, page 6, [0050]. Thus, in Kallio, the original leg is torn down *before* the alternate leg is used (i.e., Kallio provides a "break-before-make" switching function, as opposed to the "make-before-break" switching of the claimed invention). Therefore, claim 3 is patentably distinguishable over the prior art and withdrawal of the rejection is respectfully requested.

Claim 4, dependent on amended claim 1, also is allowable because it depends from an allowable claim and recites further distinguishing limitations. Withdrawal of the rejection is respectfully requested.

Regarding claims 5 and 6, Applicant respectfully traverses Examiner's assertion that Kallio discloses the device of claims 5 and 6, in which exchanging the modality handoff signal is performed by transmitting/receiving it over the original leg. As discussed above,

Kallio's handoff procedures require communication between the WLAN network devices (WMC, AGW) the cellular network elements (MSC and BSC). See Kallio, page 6, [0050].

Claim 7, dependent on amended claim 1, also is allowable because it depends from an allowable claim and recites further distinguishing limitations. Withdrawal of the rejection is respectfully requested.

Claims 8, 19, 31, 42, 54, 65, 77, and 88 are amended to clarify that the device of the claimed invention comprises a processor adapted to exchange a modality handoff signal after transferring voice data over the original leg, wherein exchanging the modality handoff signal is performed over the original leg. As discussed above, Kallio's WLAN network devices emulate a GSM cell and the handoff procedures require communication between the WLAN network devices (WMC, AGW) the cellular network elements (MSC and BSC), while the architecture of the claimed invention does not require any cellular-specific communication between WLAN network and cellular network elements.

Claims 9, 20, 32, 43, 55, 66, 78, and 89, dependent on amended independent claims 8, 19, 31, 42, 54, 65, 77, and 88, respectively, also are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Regarding claims 10, 21, 33, 44, 56, 67, 79, and 90, Applicant respectfully traverses Examiner's assertion that Kallio discloses the device of claim 8, in which the processor is further adapted to: tear down the original leg while transferring data of the voice conversation between the voice channel and the alternate leg. As discussed above, in Kallio, after the handover complete message is sent, the MSC 120 releases the reserved resources from the GSM BSS 110. The MS 150 is handed over and starts to use the WLAN radio. See Kallio, page 6, [0050]. Thus, in Kallio, the original leg is torn down before the alternate leg is used. Therefore, claims 10, 21, 33, 44, 56, 67, 79, and 90 are patentably distinguishable over the prior art and withdrawal of the rejections is respectfully requested.

Claims 11, 23, 34, 46, 57, 69, 80, and 92, dependent on amended independent claims 8, 19, 31, 42, 54, 65, 77, and 88, respectively, also are allowable because they depend from

an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Regarding claims 12, 24, 35, 47, 58, 70, 81, and 93, Applicant respectfully traverses Examiner's assertion that Kallio discloses the network switch of claim 11, in which exchanging the modality handoff signal is performed by transmitting it over the original leg. As discussed above, Kallio's handoff procedures require communication between the WLAN network devices (WMC, AGW) the cellular network elements (MSC and BSC). See Kallio, page 6, [0050].

Regarding claims 13, 25, 36, 48, 59, 71, 82, and 94, Applicant respectfully traverses Examiner's assertion that Kallio discloses the network switch of claim 11, in which exchanging the modality handoff signal is performed by receiving it over the original leg. As discussed above, Kallio's handoff procedures require communication between the WLAN network devices (WMC, AGW) the cellular network elements (MSC and BSC). See Kallio, page 6, [0050].

Claims 14, 26, 37, 49, 60, 72, 83, and 95, dependent on amended independent claims 8, 19, 31, 42, 54, 65, 77, and 88, respectively, also are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Regarding claims 15, 27, 38, 50, 61, 73, 84, and 96, Applicant respectfully traverses Examiner's assertion that Kallio discloses the network switch of claim 8, in which the processor is further adapted to: receive data from both the original leg and the alternate leg; and combine the data received from the original leg and from the alternate leg to form a combined data stream of a single one of the CSV and VoX modalities. The Examiner cites page 3, [0025] of Kallio to support his rejection. However, the cited paragraph only discloses that Kallio provides mobility between the GSM network and the WLAN in two modes: idle or active. Moreover, the claims are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Regarding claims 16, 28, 39, 51, 62, 74, 85, and 97, Applicant respectfully traverses Examiner's assertion that Kallio discloses the network switch of claim 15, in which the processor is further adapted to: convert the data received from one of the original leg and the alternate leg to be of the other one of the CSV and VOX modalities prior to combining. Again, the Examiner cites page 3, [0025] of Kallio to support his rejection. As mentioned above, the cited paragraph only discloses that Kallio provides mobility between the GSM network and the WLAN in two modes: idle or active. Moreover, the claims are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Regarding claims 22, 45, 68, and 91, Applicant respectfully traverses Examiner's assertion that Kallio discloses the method of claim 88, further comprising: receiving an identity code about the original leg; and using the identity code for coupling the voice channel with the alternate leg. The Examiner cites page 6, [0050] of Kallio to support his rejection. However, the cited paragraph discloses the handoff procedures from the GSM network to the WLAN. Moreover, the claims are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Claims 17-18, 29-30, 40-41, 52-53, 63-64, 75-76, 86-87, and 98-99 are rejected under 35 USC 103(a) as being unpatentable over Kallio and Wilhoite and further in view of Gilhousen et al. (US 5,101,501).

Claims 17, 29, 40, 52, 63, 75, 86, and 98, dependent on amended independent claims 19, 31, 42, 54, 65, 77, and 88, respectively, also are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Claims 18, 30, 41, 53, 64, 76, 87, and 99 are amended to clarify that a silent period is detected to determine when to begin transferring data between the voice channel and the alternate leg. Moreover, the claims are dependent on amended independent claims 19, 31, 42, 54, 65, 77, and 88, respectively; thus, the claims also are allowable because they depend from an allowable claim and recite further distinguishing limitations. Withdrawal of the rejections, therefore, is respectfully requested.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-99 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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